

Science Toolkit: Grade 6 Objective 4.C.1.b

Student Handout: Science: Grade 6 Objective 4.C.1.b

Standard 4.0 Chemistry

Topic C. States of Matter

Indicator 1. Provide evidence and examples illustrating that many substances can exist as a solid, liquid, or gas depending on temperature.

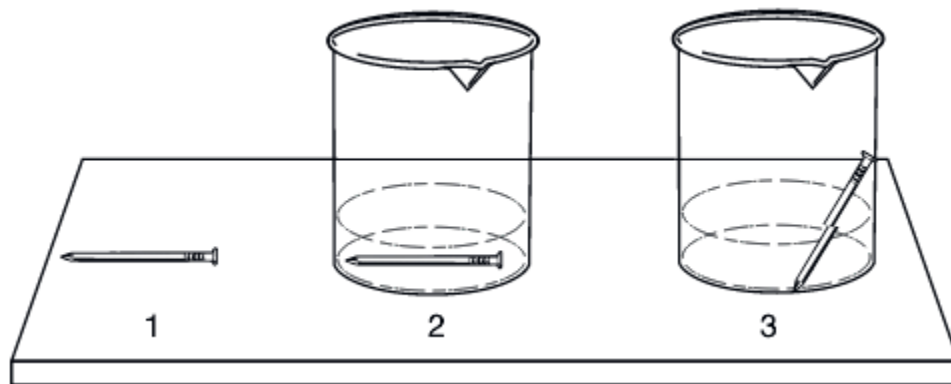
Objective b. Based on data from investigations describe the effect that removing heat energy from different types of matter has on changing matter from one state to another.

Selected Response (SR) Item

Question

Use the information below to answer the following:

A student conducted an investigation to determine which condition caused the greatest amount of rust to form on an iron nail. Iron Nail 1 was placed on a table. Iron Nail 2 was submerged in a beaker of water. Iron Nail 3 was partially submerged in another beaker of water. The setup for the investigation is illustrated below.



The student recorded observations about the nails on Day 1 and Day 8 in the table below.

OBSERVATIONS OF IRON NAILS

Iron Nail	Day 1	Day 8
1	Metallic silver	Metallic silver
2	Metallic silver	Metallic silver with spots of reddish-brown color
3	Metallic silver	Metallic silver with spots of reddish-brown color on the part submerged

The beaker with Iron Nail 2 was placed in a freezer.

Which result most likely occurred when the heat energy was removed from the water in the beaker?

- A. The nail floated.
- B. The nail dissolved.
- C. The water solidified.
- D. The water evaporated.

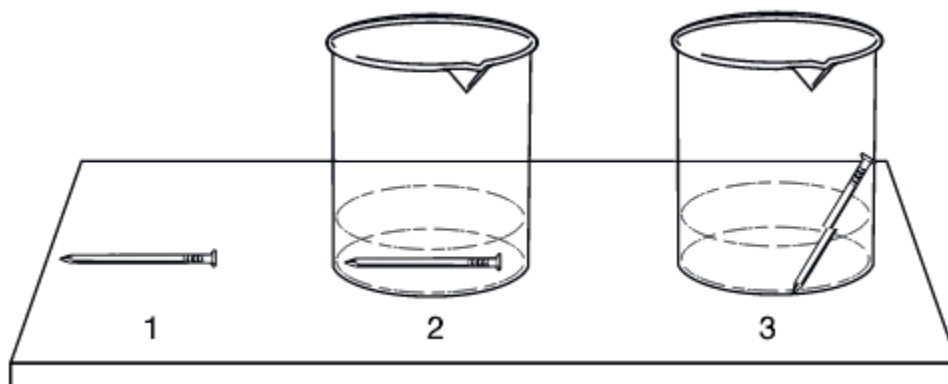
Correct Answer

- C. The water solidified.

Question

Use the information below to answer the following:

A student conducted an investigation to determine which condition caused the greatest amount of rust to form on an iron nail. Iron Nail 1 was placed on a table. Iron Nail 2 was submerged in a beaker of water. Iron Nail 3 was partially submerged in another beaker of water. The setup for the investigation is illustrated below.



The student recorded observations about the nails on Day 1 and Day 8 in the table below.

OBSERVATIONS OF IRON NAILS

Iron Nail	Day 1	Day 8
1	Metallic silver	Metallic silver
2	Metallic silver	Metallic silver with spots of reddish-brown color
3	Metallic silver	Metallic silver with spots of reddish-brown color on the part submerged

The beaker with Iron Nail 2 was placed in a freezer.

Which result most likely occurred when the heat energy was removed from the water in the beaker?

- A. The nail floated.
- B. The nail dissolved.
- C. The water solidified.
- D. The water evaporated.